

REMARKS

Claim Objections

Applicant has amended claim 9 as requested by the Examiner, and thus, the objection is traversed. Accordingly, the objection should be withdrawn.

Claim Rejections Under 35 USC § 112, first paragraph

Applicant has amended paragraph [0009] to provide express, literal support for "the axial sealing lip extending axially outwardly from the planar bottom surface of the carrier element," as recited in claim 9; "a portion of the radial sealing lip being radially aligned with the planar bottom surface of the carrier element," as recited in claim 17; and "the wave shaped fusion zone extends coplanar with the planar bottom surface of the carrier element," as recited in claim 18. These aspects all have support in the originally filed figures 1-4. Accordingly, no new matter is being added.

Accordingly, the rejection under section 112, first paragraph of claims 9, 17 and 18 is traversed, and thus, the rejection should be withdrawn.

Claim Rejections Under 35 USC § 112, second paragraph

Applicant has amended claim 17 to resolve indefiniteness issues, and thus, the rejection under section 112, first paragraph is traversed. Accordingly, the rejection should be withdrawn.

Claim Rejections Under 35 USC § 103(a)

Applicant traverses the Examiner's rejection of claims 9-13, 17 and 18 as being obvious over Antonini et al (US 4,588,195, referred to hereafter as "Antonini"). For at least the following reasons, Applicant contends the rejection should be withdrawn and the claims allowed.

As amended, claim 9 recites a housing closing cover having a carrier element with a generally planar bottom surface to be positioned in direct abutment against a mating component and an opening in the carrier member. A fluid seal is mounted in the opening of the carrier element. The fluid seal has a static annular axial sealing lip facing in the axial direction of the opening adjacent an edge of the opening. The axial sealing lip

extends axially outwardly from the bottom surface of the carrier element to provide a static face seal between the housing and the mating component. The fluid seal also includes an annular radial sealing lip attached to the axial sealing lip. The radial sealing lip extends axially inwardly in relation to the planar bottom surface. The radial sealing lip is supported for angular and radial movement relative to the carrier element without significantly impairing the sealing established by the radial sealing lip about the member projecting through the opening.

In contrast, Antonini does not provide both an axial sealing lip and a separate radial sealing lip. For this reason alone, claim 9 is not obvious over Antonini. Antonini does not have a static annular axial sealing lip facing in the axial direction of the opening with the axial sealing lip extending axially outwardly from a planar bottom surface of a carrier element, let alone an axially extending static seal. As noted in Applicant's prior response, Antonini provides a seal assembly 10 having a metallic case 14 with an elastomeric body 12 molded to the case 14 to provide only a radial sealing lip 20 arranged for engagement with a shaft 18 (Col. 2, lines 32-34). Nowhere is there disclosure or a suggestion of a second sealing lip, let alone an axial sealing lip extending axially outwardly from the radial annulus 36 to provide a static face seal (which the Examiner has acknowledged, but then goes on to state it would have been a matter of design choice to make different portions of the axial sealing lip of whatever form or shape was desired or expedient). Applicant respectfully states that axial seal lip as recited in claim 9 can not be provided in Antonini simply by stating that it is a matter of "design choice" in view of the disclosure of Antonini. There is simply nothing within Antonini that would direct one skilled in the art to provide an "axial seal lip" in the seal construction of Antonini. Applicant thus contends that Antonini fails to disclose or suggest all the claimed elements, as required to establish a proper prima facie obviousness rejection. The Examiner makes reference to the radially extending annulus 36 and the extending outer body 38, and then goes on to state that they 36, 38 are installed adjacent to the bore 40 and thus meets the limitation of being "positioned against a mating component." However, this is not what is recited in claim 9. Applicant recites the planar bottom surface to be positioned in direct abutment against a mating component. In Antonini, it is the cylindrical outer body 38 that is positioned in direct abutment with the bore 40, and not the radially extending annulus 36. Further, Applicant contends that to modify

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Antonini in an effort to provide a static annular axial sealing lip facing in the axial direction is well outside the disclosure of Antonini. Nowhere is there a suggestion, let alone a hint of how or why such an additional sealing surface would be provided in the area of the reverse bend portions 28, 32 of Antonini. The Examiner states that the molded portion 16 inherently provides a sealing effect since it is molded to inside annulus 34 and allows axial movement of the seal while still providing a sealing action with the extending annulus. Again, this is not what Applicant has recited. Applicant positively recites a static annular axial sealing lip. The molded portion 16 in Antonini does not provide this claimed element, and to broadly suggest that it does not only requires perfect hindsight in view of Applicant's disclosure, but also requires a significant re-engineering of the seal of Antonini. As such, Applicant respectfully believes the Examiner has failed to establish a proper prima facie case of obviousness, as all the elements are not provided or suggested in Antonini.

Accordingly, amended claim 9 is believed to define patentable subject matter and to be in proper form for allowance. Such action is respectfully requested.

Claim 10 is dependent on amended claim 9, and further provides a fusion zone connecting the radial sealing lip to the axial sealing lip and enabling the angular and radial movement of said radial sealing lip through flexing of the fusion zone.

In contrast, Antonini does not provide a radial sealing lip, and thus, does not provide a fusion zone connecting a radial sealing lip to an axial sealing lip. The Examiner's interpretation that the region with the reverse bend 28 and second reverse bend 32 provides a fusion zone and the flexible body portion 12 provides the "axial sealing lip," does not support the conclusion that the elements of claim 10 are obvious in view of the disclosure of Antonini. If this is how the seal of Antonini is interpreted, then the "axial sealing lip 12 cannot be viewed as being connected to the radial sealing lip 48 by the fusion zone, as the fusion zone 28-32 is not between the "axial sealing lip" 12 and the radial sealing lip 48.

Accordingly, claim 10 is believed to define patentable subject matter and to be in proper form for allowance. Such action is respectfully requested.

Claim 11 is ultimately dependent upon amended claim 9, and thus, is believed to define patentable subject matter for at least the same reasons and to be in proper form for allowance. Such action is respectfully requested.

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Claim 12 is dependent on claim 10, and further defines the fusion zone as being tapered having a wave form.

The Examiner interprets the fusion zone of Antonini as being the first reverse bend 28 and second reverse bend 32. If this is the case, then there is no support for an axial sealing lip as claimed by Applicant.

Accordingly, claim 12 is believed to define patentable subject matter and to be in proper form for allowance. Such action is respectfully requested.

Claim 13 is ultimately dependent upon amended claim 9, and thus, is believed to define patentable subject matter for at least the same reasons and to be in proper form for allowance. Such action is respectfully requested.

Claim 17 has been amended, and is dependent on claim 10, and further recites a portion of the radial sealing lip is radially aligned with the planar bottom surface of the carrier element. The radial sealing lip 20 in Antonini is not radially aligned with such a planar bottom surface. Rather, the sealing lip 20 is located axially inwardly from the radial annulus 36, with no suggestion to the contrary.

Accordingly, amended claim 17, in addition to being ultimately dependent upon amended claim 9, is believed to further recite patentable subject matter and to be in proper form for allowance. Such action is respectfully requested.

Claim 18 is dependent on amended claim 17, and further clarifies that the wave shaped fusion zone extends coplanar with the planar bottom surface of the carrier element to connect the static face seal to the axial sealing lip.

In Antonini, a reverse bend 28 extends from an axially inward portion of the inside annulus 34 axially outwardly and then it reverses to extend purely in an axial direction to the radial sealing lip 20. It does not extend coplanar with the planar radial annulus 36.

Accordingly, claim 18, in addition to being dependent upon amended claims 17 and 9, is believed to further define patentable subject matter and to be in proper form for allowance. Such action is respectfully requested.

Applicant traverses the Examiner's rejections of claim 14 as being obvious over Antonini in view of Phillips (US 4,021,049); and claim 15 as being obvious over Antonini and Phillips in view of Phillips (US 6,527,276). Claim 14 and 15 are dependent upon

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amended claim 9, and thus, are believed to define patentable subject matter for at least the same reasons.

Accordingly, claims 14 and 15 are believed to define patentable subject matter and to be in proper form for allowance. Such action is respectfully requested.

It is believed that this application now is in condition for allowance. Further and favorable action is requested.

The Patent Office is authorized to charge or refund any fee deficiency or excess to Deposit Account No. 04-1061.

Respectfully submitted,

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Date

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